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REMARKS/ARGUMENTS

Claims 1-80 are pending in the instant application. In the referenced Office Action, the Examiner has rejected all claims under 35 U.S.C. § 102(e) as anticipated by U.S. Patent Application Publication 2002/0038363 A1 to MacLean (hereinafter, MacLean 2002/0038363). The earliest priority date for MacLean appears to be September 28, 2000; the filing date of a provisional patent application no. 60/235,973 to which it claims priority (hereinafter, MacLean provisional application).

Applicant herein contends that the inventors of the present patent application conceived of their invention prior to the MacLean 2002/0038363 priority date, and diligently reduced it to practice until filing of the present application. Additionally and alternatively, Applicant contends that MacLean provisional application, from which MacLean 2002/0038363 claims priority, does not disclose or enable the teachings asserted by the Examiner in rejecting claims 1-80 of the present application. For that additional and alternative argument, Applicant separately shows prior constructive reduction to practice, and prior conception coupled with necessary diligence, each separate showing predating the MacLean 2002/0038363 filing date of February 13, 2001. The attached Affidavit and Exhibits are identical to those filed with a Response (after final) filed on April 6, 2004, which the Examiner refused to consider in an Advisory Action that the PAIR system indicates was mailed on July 27, 2004.

1. Conception and Diligence to Predate the Earliest MacLean Priority Date:

A 35 U.S.C. 102(e) reference may be overcome by antedating the filing date of the reference by submitting an affidavit or declaration under 37 C.F.R. 1.131. M.P.E.P. §§ 715 and 2136.05. One way to antedate a reference is to provide sufficient facts to show conception of the invention prior to the effective date of the reference coupled with diligence from a date prior to that reference date to the filing date of the application. M.P.E.P. § 715.07.

The "invention" refers to the subject matter of the claims. The purpose of the Rule 131 showing is to broadly establish possession of the invention. A Rule 131 declarant need

not necessarily show possession of the entire invention as later claimed; it is sufficient that he shows possession of enough to make the entire invention obvious to one of ordinary skill in the art. See In re Spiller, 500 F.2d 1170, 1176, 182 USPQ 614, 618-19 (CCPA 1974).

The attached Declaration is signed by each of the named inventors in accordance with M.P.E.P. § 715.04. That Declaration asserts, at numbered paragraph 2 of that Declaration, that the inventors of the present application conceived of their invention at least as early as August 29, 2000. This date predates the earliest priority date of MacLean 2002/0038363. Exhibit A is evidence of that conception in six, single sided and numbered pages. While conception by the present inventors may have been earlier than August 2000, that is the earliest evidence the Applicants submit at this time.

For all Exhibits, redacted portions obliterate only personal information (employer personnel numbers, email addresses, phone numbers, etc.) that are not relevant to conception and/or diligence. Additionally, for Exhibit A only, certain redacted portions obliterate privileged business information that is not relevant to conception and/or diligence.

Specifically, conception of the invention recited in pending claim 1 may be broadly found at numbered paragraphs 2 and 3 (e-commerce filter in a network) combined with #1 under the sub-heading "A possible start for claims:" (where the 'parties' relate to the claimed network components) at pages 2 and 3 respectively, of Exhibit A. Conception of the claim 1 clause "independent of a particular electronic commerce program" is shown at page 2 of Exhibit A under the subheading "The solution:", where the present 'generic solution' is distinguished over the 'classic integrated approach' and is stipulated in several bulleted points as a 'Uniform policy over different e-Commerce systems'; as adaptable 'without re-deploying the e-Commerce systems'; and as insertable 'without the knowledge or participation of the e-Commerce system vendor'. These and other specific disclosures within Exhibit A further show conception for each of the remaining independent claims 26, 27, 29, 31, 32, 62 and 70.

Applicant submits that Exhibit A evidences conception of the claimed invention in such detail as to clearly exceed the minimum requirements recited above from In re Spiller.

Diligence is shown in the Declaration at numbered paragraphs 3-6 and Exhibits B through D. Specifically, Exhibit B is a copy of an email evidencing a meeting concerning the invention on September 7, 2000 (the date prior to the email of Exhibit B). Exhibit C is a copy of a Supplementary Invention Report in fourteen numbered pages (two-sided) generated in response to the meeting noted in Exhibit B. Exhibit C evidences further reduction to practice between September 8, 2000 and October 9, 2000. Exhibit C bears a stamped date of October 11, 2000, but was earlier attached to the email of Exhibit D which itself is dated October 9, 2000.

Exhibit E is a copy of the first page of a letter dated October 31, 2000 whereby the invention was first submitted to outside counsel for the purpose of preparing a U.S. patent application (received on November 1, 2000). Caselaw holds that once an invention is submitted to an attorney for drafting of a patent application, diligence is satisfied when the attorney takes up work in a reasonable order. "[D]ecisions (as to the order in which a patent attorney prepares cases) recognize that the pressure of other business on a patent attorney may be a sufficient excuse for delay in filing provided the attorney takes up work in a reasonable order..." *Chisum on Patents*, vol 3, ch. 10.07[4][e] (Matthew Bender & Co., Inc., Rel. 82-3/02). Gould v. Schawlow, 150 USPQ 634 (CCPA 1966); Rines v. Morgan, 116 USPQ 145, 148 (CCPA 1957) ("it is not necessary that an inventor or his attorney should drop all other work and concentrate on the particular invention involved; and if the attorney has a reasonable backlog of work which he takes up in chronological order and carries out expeditiously, that is sufficient."). The undersigned asserts that based on a personal interview, the attorney preparing the case had a reasonable backlog of patent cases that he took up in a reasonable order during the entire period from November 1st, 2000 to January 20th, 2001. Therefore, conception is shown by Exhibit A as being no later than August 29, 2000, which precedes the earliest MacLean 2002/0038363 priority date of September 28, 2000. Diligence is shown through October 31, 2000 by Exhibits B

through E, and the remaining period from October 31, 2000 until filing of the application satisfies diligence according to the authorities cited above.

Though not required, the Applicant submits further materials in Exhibits E through H to corroborate diligence during the period over which the patent application was drafted and formalized. Exhibit F is a copy of an email of which the lower portion recites a first draft patent application was sent to the lead inventor, Mr. John F. Morar, on January 20, 2001; Exhibit G is a copy of a letter evidencing a second draft patent application was sent to that same lead inventor on January 31, 2001; and Exhibit H is a copy of a letter evidencing that a final draft of the patent application, with formal papers, was sent to that same lead inventor on February 5, 2001. The filed patent application is an exact copy of that final draft dated February 5, 2001. Because the filed application represents constructive reduction to practice, the identical draft of February 5, 2001 must also represent constructive reduction to practice.

The Applicant's showing of conception and diligence is summarized in the following table:

Reference	Dates	Activity	Asserted showing
Exhibit A	Aug. 29, 2000	Invention Report	Conception
Exhibit B	Sept. 7-8, 2000	Meeting and Email	Diligence
Exhibit C	Oct. 9-11, 2000	Supplementary Invention Report	Diligence
Exhibit D	Oct. 9, 2000	Email with Exhibit C attached	Diligence
Exhibit E	Oct. 31 to Nov. 1, 2000	Invention sent to outside counsel for drafting of patent application.	Diligence
Exhibit F	Jan. 20, 2001	First draft sent to inventors	Diligence
Exhibit G	Jan. 31, 2001	Second draft sent to inventors	Diligence
Exhibit H	Feb. 5, 2001	Final draft sent to inventors	Reduction to Practice
Application	Feb. 15, 2001	Application filed with US PTO	Reduction to Practice

Applicant notes that the above reveals only two time periods wherein a month or more elapses without separate documentation as to diligence. Both periods are after the date the

invention materials were submitted to outside counsel for drafting of the application, and are therefore moot in view of the above-cited authority concerning the necessary showing of diligence during that period. Regardless, diligence during each period is independently corroborated as follows.

As to the period Sept. 8 to Oct. 9, 2000, the period ends with the email of Exhibit D to which was attached the Supplementary Invention Report of Exhibit C. Exhibit C itself evidences a compilation of work performed over a period of time commensurate with the content of Exhibit C, and therefore proves diligence for a period of time commensurate with the work reflected in the materials, and not merely the date the completed supplementary report was electronically sent. As to the period between Nov. 1, 2000 and Jan. 20, 2001 between the dates of Exhibits E and F, the first draft mailed January 20, 2001 evidences a body of work culminating in the first draft that was merely mailed on that date but evidencing work over a period of time commensurate with its scope. That the drafting attorney theoretically might have taken up work in a different order and concentrated on the particular invention involved (absent competing evidence as to backlog or reasonableness of the order in which work was taken up) is expressly contrary to the above-cited caselaw.

The Applicant hereby asserts that the attached Affidavit, Exhibits A through H, and the above assertion of the undersigned based on a personal interview with the drafting attorney, evidences conception of the invention prior to the earliest MacLean 2002/0038363 priority date, and diligence from prior to that earliest priority date to constructive reduction to practice, the filing of the patent application on February 15, 2001.

2. The MacLean Provisional Application Does Not Disclose Or Enable an Electronic Transaction Filter, and the Showing Predates the MacLean 2002/0038363 Filing Date:

In the alternative, should the Examiner rule insufficient the above showing of prior conception and diligent reduction to practice, Applicant asserts that relevant and substantive portions of MacLean 2002/0038363, asserted as anticipatory in the outstanding

rejection, are not disclosed in or enabled by the MacLean provisional application. M.P.E.P. § 2136.02 requires that "subject matter not included in the patent or application publication itself can only be used when the subject matter becomes public." While 35 U.S.C. 102(e) provides that the 'public' date of a reference may be considered its filing date, in the present instance, only the subject matter of the cited MacLean 2002/0038363 that finds enabling support in the MacLean provisional application is entitled to the earlier filing date of the provisional (September 28, 2000). This mirrors the requirement of M.P.E.P. § 2136.03, part IV, wherein the filing date of a parent application may only be used as the priority date under 102(e) only if that parent application supports the claims of the issued child application; matter that is new in a subsequent application does not carry the priority date of a previous application from which benefit is claimed.

Exhibit I is a copy of the MacLean provisional application from which MacLean 2002/0038363 claims priority, as provided by the US PTO. At page 3 of the outstanding Office Action, the Examiner recites that MacLean 2002/0038363 discloses: inputting the electronic commerce transaction to an electronic transaction filter ... for enabling the filter to interpret at least one characteristic of the transaction in a manner that is independent of a particular electronic commerce program that originated the messages and message data. Assuming *arguendo* that MacLean 2002/0038363 does disclose and teach the above, those teachings are not disclosed in enabled by the MacLean provisional application, and therefore constitutes new matter not entitled to the priority date of the MacLean provisional application.

First, the MacLean provisional application fails to include any drawings where necessary to understand the subject matter, as required under 35 U.S.C. § 113 and M.P.E.P. § 608.02. ("The examiner should require drawings in almost all such instances."). This represents a lack of enablement in itself. Second, the MacLean provisional application is not seen to include disclosure concerning an electronic commerce filter or its specific claimed characteristics. This represents a lack of disclosure. It appears that all references to filters in MacLean 2002/0038363 constitute new matter over the MacLean provisional application. Thus, any disclosure and/or teaching in MacLean 2002/0038363 that relates

to electronic commerce filters is not entitled to the earlier provisional filing date of September 28, 2000, but rather carries a priority date no earlier than February 13, 2001, the filing date of MacLean 2002/0038363.

For the present application, the showing detailed above in section 1 recites that the final draft of the present application was prepared no later than February 5, 2001 (Exhibit H); and that final draft was later filed unchanged. Applicant's first argument concerning section 2 of this paper is that the draft sent on February 5, 2001 for inventor execution of the Oath represents constructive reduction to practice, because it is identical to the application filed on February 15, 2001. The ten-day period from February 5 to filing of the application on February 15 was occupied by review of the final draft by each of the six named inventors, procuring each of their signatures on the Oath and Assignment, and submitting the executed formal papers to the drafting attorney for filing. The draft of February 5, 2001 is eight days prior to the earliest MacLean disclosure that the Examiner cites as anticipatory, so no showing of conception or diligence is required. See 37 C.F.R. § 1.131(b) and M.P.E.P. § 715.07, Part III, sub-paragraph (A).

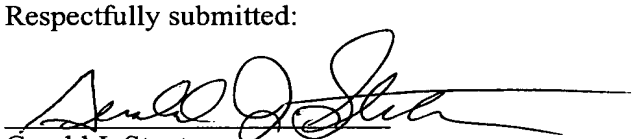
Applicant's second argument concerning section 2 of this paper is that conception and diligence are shown from prior to the earliest date that MacLean discloses what the Examiner cites as anticipatory until filing of the present application. As detailed above, conception is shown at least as early as August 29, 2000 (Exhibit A), and is hereby asserted as also shown the final draft dated February 5, 2001 (Exhibit H, the draft itself being identical to the application as filed). Diligence need only be shown from a period immediately preceding the asserted anticipatory disclosure until filing of the application. See 37 C.F.R. § 1.131(b) and M.P.E.P. § 715.07, Part III, sub-paragraph (C). For this argument, the period over which diligence must be shown is from before the critical date of February 13th (the MacLean 2002/0038363 filing date) until the filing date of the present application, February 15, 2001. Exhibit H shows diligence (and conception) on February 5, 2001, which precedes the critical date by eight calendar days. February 10-11, 2001 fell on a weekend, leaving eight business days between February 5th and the filing date of February 15, 2001. Applicant asserts it is diligent for six separate inventors to

each review a final draft patent application, each execute an Oath and Assignment, and the representing attorney to file the application, within eight business days.

In summary, Applicant asserts in section 1 of this paper that no teachings of either MacLean 2002/0038363, or the MacLean provisional application, are valid prior art against the present application. By two separate and independent arguments, Applicant asserts in section 2 of this paper that no teaching concerning filters of the MacLean 2002/0038363 reference are valid prior art against the present invention.

In light of the above arguments, Applicant respectfully requests that the Examiner consider MacLean 2002/0038363 as not valid as prior art against the present application, and pass claims 1-80 to issuance without further delay. Applicant invites the Examiner to discuss any remaining concerns, if there be any, with the undersigned representative via telephone at his discretion.

Respectfully submitted:



July 28, 2004
Date

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CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

July 28, 2004
Date

Ann Okrentowich

IN THE U.S. PATENT AND TRADEMARK OFFICE

Appl. No.	:	09/783,897
Applicant	:	Morar, John F., et al.
Filed	:	February 15, 2001
TC/AU	:	3621
Examiner	:	Bayat, Bradley B.
Docket No.	:	YOR920000719US1
Title	:	METHOD AND APPARATUS FOR PROVIDING INDEPENDENT FILTERING OF E-COMMERCE TRANSACTIONS

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

DECLARATION UNDER 37 C.F.R. § 1.131

1. We the undersigned inventors, John F. Morar, Ian N. Whalley, Steve R. White, David M. Chess, Aaron Kishenbaum, and Edward Pring, hereby attest that we are the joint and first inventors of the invention described and claimed in the above-referenced patent application now pending before the U.S. Patent Office. Exhibits A through D described below represent our own work on the invention described in that patent application during the times indicated.

2. We conceived of the invention at least as early as August 29, 2000, as evidenced by Exhibit A. Exhibit A is an Invention Disclosure prepared by John F. Morar that summarizes certain key concepts of the invention. Other dates noted within Exhibit A potentially evidence earlier dates of conception. We do not claim that the handwritten notes on Exhibit A form a part of the Invention Report as it existed on August 29, 2000.

3. From at least August 29, 2000 through February 15, 2001, we continued to reduce the invention to practice, as evidenced by Exhibits B through D and the further statements below. Exhibit B is a copy of an email dated September 8, 2000 from David Shofi of IBM to each of us, concerning a meeting between the inventors and him that occurred on September 7, 2000. That email and meeting recite that the invention was to be the subject of a patent application, and set forth more detailed disclosure that the inventors would develop toward that end.

4. Exhibit C is a copy of a Supplementary Invention Report that we prepared in response to the email of Exhibit B and the meeting noted in that email.

5. Exhibit D is a copy of an email dated October 9, 2000 from inventor John F. Morar to David Shofi, noting an attachment entitled "V91 Filtering e-commerce transacti". That attachment was identical to Exhibit C above.

6. To the best of our recollection, we received and commented on draft patent applications during January, 2001; we agreed to a final draft of a patent application during February, 2001, and we each signed a declaration concerning that final draft during February, 2001.

7. Each of the redacted portions of Exhibits A through D do not relate to the inventive substance of the invention.

8. Each of the undersigned inventors hereby attests that the Exhibits cited herein are true copies of the original documents asserted above. Each of us hereby acknowledges that the statements made herein are true or are made on information and belief that is believed to be true. I further acknowledge that any willful false statements are punishable by fine or imprisonment, or both, in accordance with 18 U.S.C. § 1001; and that such false statements may jeopardize the validity of any patent that may issue form the application to which this Declaration pertains.

Respectfully Submitted,

John F. Morar — Date: 4/1/2004

Ian N. Whalley — Date: 1 April 2004

Steve R. White — Date: 4/1/2004

David M. Chess — Date: 1 April 2004

Aaron ~~Kishenbaum~~ Kershenbaum — Date: 1 April 2004

Edward Pring — Date: 1 Apr 04

Notary Seal and date:

Robin Louise Moro

Robin Louise Moro
Notary Public, State of NY
No. 01DI6045019
County of Westchester
Commission Expires July 17, 2006

4-1-04

9/7 (A) Business Method I

Disclosure YOR8-2000-0738

Created By: John F Morar **Created On:** 08/17/2000 11:15:34 AM
Last Modified By: John F Morar **Last Modified On:** 08/29/2000 10:02:25 AM

*** IBM Confidential ***

Required fields are marked with the asterisk (*) and must be filled in to complete the form .

Summary

Status	Under Evaluation
Processing Location	YOR
Functional Area	900 Goyal-Systems & Software
Attorney/Patent Professional	David Shofi/Watson/IBM
IDT Team	David Shofi/Watson/IBM
Submitted Date	08/28/2000 05:35:47 PM
Owning Division Select	RES
PVT Score Calculate	To calculate a PVT score, use the 'Calculate PVT' button.
Incentive Program	
Lab	
Technology Code	

Inventors with Lotus Notes IDs

Inventors: John F Morar/I Redacted , Ian N Whalley Redacted ; Steve R White/I Redacted David M Chess/I Redacted ; Aaron Kershenbaum/ Redacted ; Edward Pring/ Redacted

Inventor Name > denotes primary contact	Inventor Serial	Div/Dept	Manager Serial	Manager Name
> Morar, John F.				
Whalley, Ian N.				
White, Steve R.				
Chess, David M.				
Kershenbaum, Aaron				
Pring, Edward				

REDACTED

Inventors without Lotus Notes IDs

IDT Selection

IDT Team:	Attorney/Patent Professional:
David Shofi/Watson/IBM	David Shofi/Watson/IBM

Response Due to IP&L : 09/28/2000

Main Idea

***Title of disclosure (In English)**

Method and apparatus for independent filtering of e-Commerce transactions

***Idea of disclosure**

1. Describe your invention, stating the problem solved (if appropriate), and indicating the advantages of

Exhibit A

using the invention.

The problem: E-Commerce systems typically have a policy for allowing transactions to proceed to completion. This policy may either be static (in that it is hard wired into the system) or dynamic in that it can be updated without redeploying the application. In either case, policies must be compatible with the deployed e-commerce system they are associated with. Frequently, there will be transactions that are allowed by the system even though the system operator/owner would not approve.

The solution: This invention provides a method for enforcing additional constraints, thereby allowing the system owner/operator to extend the functionality of the system without the knowledge or assistance of the original system provider. It provides a generic means for blocking or modifying in-progress e-commerce transactions by intercepting, examining and possibly modifying one or more of the messages that constitute the transaction. The generic solution described here has several advantages over the classic integrated approach.

- Uniform policy across different e-Commerce systems.
- Ability to update the policy with arbitrary new code without re-deploying the e-Commerce systems
- Ability to insert custom and proprietary filters without the knowledge or participation of the e-Commerce system vendor.
  - For instance, enforce policy such as usage of a preferred supplier for airline ticket purchases.
  - Implement a custom approval/audit policy that is consistent across e-commerce systems.
- Ability to block certain transactions that you do not wish to be active on your systems.
- Masquerade the transaction so as to hide some source information from the vendor fulfilling an order. For instance, suppose a company employee wishes to electronically purchase software that is downloaded electronically. Masquerading could hide all information about the specific employee from the vendor while allowing the transaction to complete.

In addition, this solution is well suited to providing protection against the following risks that are inherent in any e-Commerce environment;

- Users may intentionally attempt to perform transactions that are allowed by the e-Commerce system but of which his employer would not approve.
- Users may accidentally attempt to perform transactions that are allowed by the e-Commerce system but which they did not intend.
- Unauthorized programs may attempt to perform transactions order under the auspices of a valid user.
- Unauthorized users may attempt to use the system.
- Legitimate programs may have undesired behavior that should be blocked.

2. How does the invention solve the problem or achieve an advantage,(a description of "the invention", including figures inline as appropriate)?

One embodiment of this invention would be software that inserts itself between all applications and the networking layer that is used to transport e-commerce traffic. This software would examine messages that pass through it and selects messages that are part of standard e-commerce transactions. The software would then examine them and analyze them for specific characteristics. If the analysis results so indicate, the message could be blocked or modified in a way that will enforce the policy that applies to the analysis results. The software could also take additional actions such as alerting, directly querying the user, logging results, etc.

3. If the same advantage or problem has been identified by others (inside/outside IBM), how have those others solved it and does your solution differ and why is it better?
Current solutions for policy enforcement are included as integral parts of an overall e-commmerce offering. This solution offers a generic method to add enhanced filtering to e-commmerce systems that are already deployed. Since this system could potentially cover all the installed e-commerce systems at a site there would be additional advantage in updating the system in real time.

4. If the invention is implemented in a product or prototype, include technical details, purpose, disclosure details to others and the date of that implementation.

Distinguishing factors:

- Installed as an **add-on** that can work with standards based e-commerce which we expect to be ubiquitous in the future. There are currently no products like this and we have not heard such products discussed.
- Policy can be applied across e-commerce offerings
- Separates the e-commerce policy vendor from the e-commerce function vendor thus defining a new business category which we hope to be able to describe as a business methods patent.

Random points:

- Redacted
  Redacted
- Redacted
  Redacted

A possible start for claims:

(integrable concept of policy and one or more policies)

1. A subsystem interposed between two or more parties that intercepts e-commerce transactions and takes actions based upon the properties of the e-commerce transaction, where the presence of the subsystem does not require any changes to the protocols used by the parties.
2. A system as in claim (1) where the subsystem interposed between two or more parties includes one or more software components that identifies e-commerce transaction related traffic even when other traffic is passing between the parties.
3. A system as in claim (1) where the subsystem interposed between two or more parties includes one or more software components that deduces what if any action should be taken in connection with an e-commerce transaction arriving at the subsystem.
   1. A system as in claim (3) where the action is deduced in part or whole by applying predefined rules to the contents of one or more messages that comprise an e-commerce transaction.
   2. A system as in claim (3) where the action is deduced in part or whole by applying predefined rules independent of the contents of any messages that comprise an e-commerce transaction.
   3. A system as in claim (3) where the action is deduced by applying predefined rules based entirely on the origin or destination of one or more messages that comprise an e-commerce transaction
   4. A system as in claim (3) where the action is deduced by supplying another software subsystem information and receiving a reply.
   5. A system as in claim (3) where the action is deduced by interacting with a human
4. A system as in claim (1) where the subsystem interposed between two or more parties includes one or more software components that modifies e-commerce transactions arriving at the subsystem before it is passed to the intended party.
5. A system as in claim (1) where the subsystem interposed between two or more parties includes one or more software components that does not pass a received message to the intended party.
6. A system as in claim (1) where the subsystem interposed between two or more parties includes one or more software components that pass a received message to a different party than the intended party.
7. A system as in claim (1) where the subsystem interposed between two or more parties includes one or more software components that pass a received and modified message to a different party than the intended party.
8. A system as in claim (1) where interposed is interpreted to mean that the subsystem is comprised in part or entirely of a software layer inserted between two existing software layers such that the

preexisting software layers continue to operate properly in the event the subsystem takes no action.

9. A system as in claim (1) where interposed is interpreted to mean that the subsystem is comprised in part or entirely of a software object inserted between two existing software objects such that the preexisting software objects continue to operate properly in the event the subsystem takes no action.
10. A system as in claim (1) where interposed is interpreted to mean that the subsystem is comprised in part or entirely of a software component inserted between two existing software components such that the preexisting software components continue to operate properly in the event the subsystem takes no action.
11. A system as in claim (1) where parties is interpreted to mean any software that represents a person or institution that has the ability to transfer goods, services or money.
12. A system as in claim (1) where parties is interpreted to mean any software that represents a person or institution that has the ability to transfer goods, services or money.
13. A system as in claim (1) where *e-commerce transaction* is interpreted to mean any message traveling between any of the parties related to the transfer of goods, services or money.
14. A system as in claim (1) where *e-commerce transaction* is interpreted to mean any collection of messages traveling between any of the parties that together enable the transfer of goods, services of money.

***Critical Questions (Questions 1 - 7 must be answered)**

***Question 1**
On what date was the invention workable? 08/01/2000 **Please format the date as MM/DD/YYYY**
(Workable means i.e. when you know that your design will solve the problem)

***Question 2** Is there any planned or actual publication or disclosure of your invention to anyone outside IBM?	○ Yes ● No
If yes, Enter the name of each publication or patent and the date published below. Publication/Patent: Date Published or Issued:	
Are you aware of any publications, products or patents that relate to this invention?	○ Yes ● No
If yes, Enter the name of each publication or patent and the date published below. Publication/Patent: Date Published or Issued:	

***Question 3** Has the subject matter of the invention or a product incorporating the invention been sold, used internally in manufacturing, announced for sale, or included in a proposal?	○ Yes ● No
Is a sale, use in manufacturing, product announcement, or proposal planned?	○ Yes ● No
If Yes, identify the product if known and indicate the date or planned date of sale, announcements, or proposal and to whom the sale, announcement or proposal has been or will be made. Product: Version/Release: Code Name: Date: To Whom: If more than one, use cut and paste and append as necessary in the field provided.	

***Question 4** Was the subject matter of your invention or a product incorporating your invention used in public, e.g., outside IBM or in the presence of non-IBMers?	○ Yes ● No
If yes, give a date. **Please format the date as MM/DD/YYYY**	

Question 5	Yes / No
Have you ever discussed your invention with others not employed at IBM?	○ Yes ● No
If yes, identify individuals and date discussed. Fill in the text area with the following information, the names of the individuals, the employer, date discussed, under CDA, and CDA #.	

Question 6	Yes / No / Not sure
Was the invention, in any way, started or developed under a government contract or project?	○ Yes ● No ○ Not sure
If Yes, enter the contract number	

Question 7	Yes / No / Not Sure
Was the invention made in the course of any alliance, joint development or other contract activities?	○ Yes ● No ○ Not Sure
If Yes, enter the following: Name of Alliance, Contractor or Joint Developer	
Contract ID number	
Relationship contact name	
Relationship contact E-mail	
Relationship contact phone	

Question 8	Yes / No
Have you submitted, or are you aware of, any related disclosure submission?	○ Yes ● No
If Yes, please provide the title and docket or disclosure number below:	

Question 9

What type of companies do you expect to compete with inventions of this type? *Check all that apply.*

- Manufacturers of enterprise servers
- Manufacturers of entry servers
- Manufacturers of workstations
- Manufacturers of PC's
- Non-computer manufacturers
- Developers of operating systems
- Developers of networking software
- Developers of application software
- Integrated solution providers
- Service providers
- Other (Please specify below)

Redacted

Redacted

Patent Value Tool (Optional - this may be used by the inventor and attorney to assist with the evalu

(The Patent Value tool can be used by you or the evaluation team to determine the potential licensing value of your invention.)

The **Patent Value Tool** has not yet been used to calculate a score.

Post Disclosure Text & Drawings

Enter any additional information relating to this disclosure below:

(Form Revised 12/17/97)

David Shofi
09/08/2000 08:41 AM

To: John F Morar/N Redacted, Ian N Whalley/ Redacted, Steve R White/ Redacted, David M Chess/ Redacted, Edward Pring/ Aaron Kershenbaum/ Redacted
cc:
From: David Shofi/ Redacted
Subject: Disclosure YOR8-2000-0738 "Method and Apparatus for Independent Filtering of E-Commerce Transactions"

The above disclosure has been rated FILE.

Please refer to the above disclosure number in all correspondence relating to this matter.

As we agreed at the invention disclosure meeting yesterday, John (as lead inventor) will complete a written, detailed description of a preferred embodiment of the invention, including at least a system block diagram and a flow diagram. Remember to incorporate the alternate business method embodiments that we discussed with or without drawings. **Please send the embodiment to me in WordPro format, if possible (and the drawings in freelance if possible).**

Please forward to me any information that may have a bearing on the patentability of your invention, including prior art publications by you or others.

I understand that there have not any public disclosures, offers for sale or other activities which would bring about a bar to filing an application nor are any expected. If this changes, please let me know ASAP!

In order to guarantee filing of a patent application by the March 31, 2001 Business Method incentive deadline, please provide me with the embodiment by November 30, 2000.

Call me if you have any questions.

david

David M. Shofi
Intellectual Property Attorney
T.J. Watson Research Center, Yorktown
REDACTED

Exhibit B

Introduction

E-commerce environment

The typical network administrator must support many different products in his networked environment. This is particularly true when it comes to applications that perform e-commerce transactions. Products that perform e-commerce transactions typically have their own administrative controls, if they have any administrative controls at all. The availability of an add-on policy system that could monitor e-commerce transactions and enforce policy simultaneously for multiple products would provide significant value. This invention addresses that need by describing a means of interposing new policy components between existing system components. The step of interposing the new policy component requires knowing the interface specification between the components at the point of insertion.

Although not there yet, the industry is currently driving towards the adoption of publicly available standards for the interaction between the major software components involved in e-commerce transactions. The trend in the industry now and in the expected future is for software vendors to provide system components that must work together. Publicly available standards are believed to be the best way to achieve reliable and proper inter-operation between components provided by different vendors. The availability of publicly available standards will increase the value of this invention, however, all that is necessary for implementing this invention is access to the interface specification, however obtained. In order to demonstrate the principles behind the invention we concentrate on a typical configuration used by e-commerce applications. The implementation does not depend on the number, or detailed nature of the components.

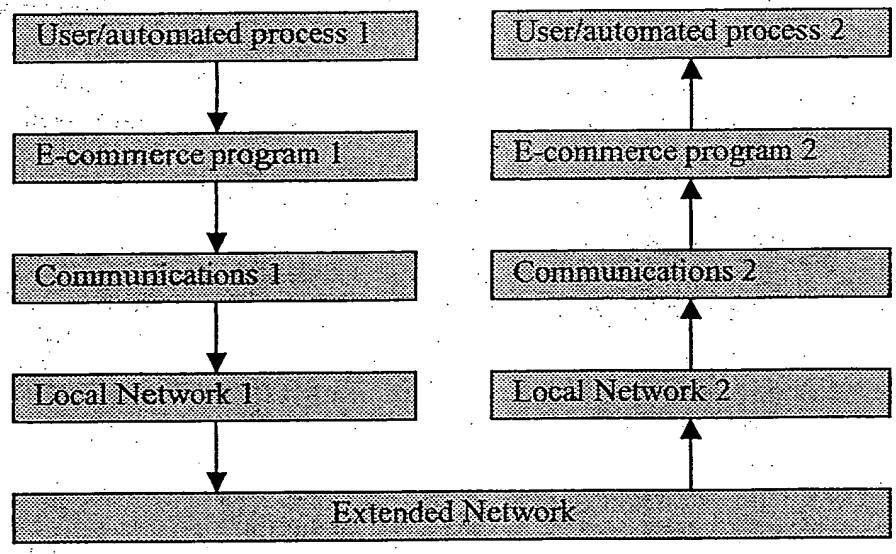

Figure 1 illustrates a likely sequence of interactions between software components used to carry out an e-commerce transaction.

Exhibit C

A typical e-commerce transaction might involve the sequence of software components diagrammed in figure 1. The top left box in the stack labeled **User/automated process 1** represents a person or computer program that is specifying the nature of an e-commerce transaction. Specifying the nature of the transaction could be accomplished by anything from selecting options in a user interface to programming an automated agent to exercise a programmatic interface. **E-commerce program 1** processes this information and places it into a known form. A known form contains data encoded according to a specification such that other programs capable of applying the specification to the known form can meaningfully process the data. There may be more than one specification available and therefore more than one known form used by the e-commerce program. **E-commerce program 1** transfers this information to

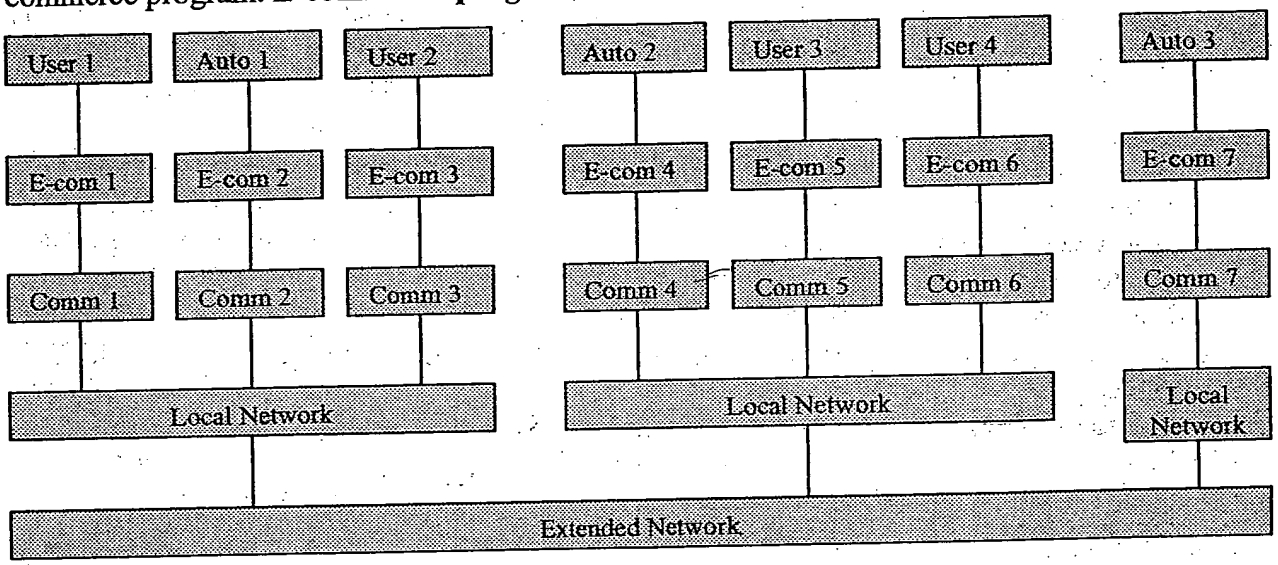

Figure 2 illustrates a network of several complete e-commerce capable installations thereby providing a more realistic model of the real world.

communications system 1 which in turn sends the information to the communications interface of another e-commerce program. The communications may pass through a local network and then over a more extended network such as the Internet. The information may be transformed several times in transit. The details of how the known form is delivered to the **Communications system 2** are not important for this example. **Communications system 2** delivers the known form to **E-commerce program 2**, which ultimately interprets the known form. In practice, the activity illustrated in this diagram is repeated many times over, where the e-commerce programs could be provided by many different vendors and be deployed in many different locations. Furthermore, transactions could potentially flow either direction. Figure 2 illustrates a more realistic model for the current e-commerce environment.

Figure 2 shows a configuration composed of four distinct users (**User 1** through **User 4**) and three automated e-commerce processes (**Auto 1** through **Auto 3**). An example of an automated process would be an e-commerce store that supports electronic purchasing. In the example shown in Figure 2 each e-commerce stack employs different e-commerce programs that may have each been written by a different vendor. For the purpose of illustration, each communications system (**Comm. 1** through **Comm. 7**) is assumed to be different from the other communications system. Assuming both **User 1**

and **User 2** employ graphical user interfaces to interact with **E-comm 1** and **E-comm 3** respectively there is no reason to expect that the user interfaces will be the same or even similar. Analogously, if **Auto 1** and **Auto 2** are interacting with **E-comm 2** and **E-comm 4** programmatically, there is no reason to expect the programmatic interfaces to be the same or similar. However, under the conditions specified at the beginning of this document, all of the e-commerce programs produce one of the known forms that can be processed by any other e-commerce program that supports the same specification.

E-commerce filters

This invention involves interposing new software components between one or more of the software components shown in the above figures. These new software components would only be interposed where the data is cast in a known form that enables the interposed software to interpret all or some of the characteristics of the e-commerce transaction flowing through it. For illustrative purposes, Figure 3 indicates some of the positions (with diamond shapes ◇) where new components could meaningfully be interposed based on the scenarios used to develop the earlier figures.

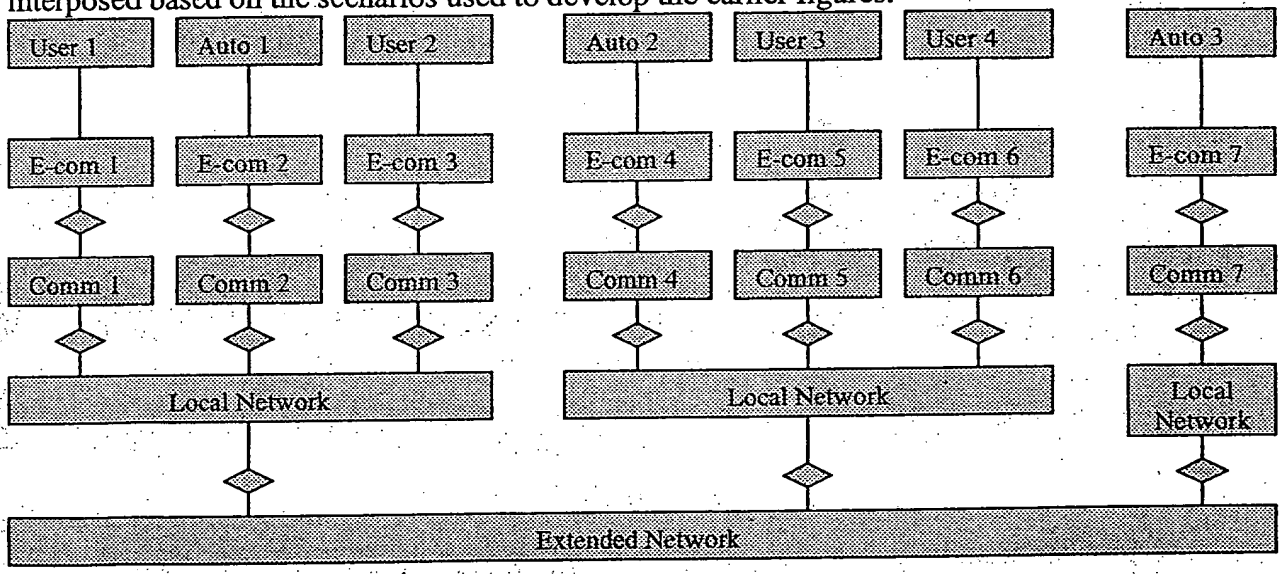

Figure 3 shows potential locations for interposing software components that analyze e-commerce information, possibly taking action based on the processing results. The diamond shapes (◇) represent new software component called a filter that is interposed between software components that process e-commerce transaction information.

The interposed software components (hereinafter referred to generically as "filters") have the potential to analyze the e-commerce traffic passing through them and possibly take action based on the results of the analysis. In spite of the fact that the filters appear at different levels of the communications hierarchy, they have the potential for extracting equivalent information. For example, a filter interposed between **E-com 1** and **Comm 1** could (in this example) do the same analysis as a filter interposed between **Comm 1** and the **Local Network**. Although any analysis of the e-commerce transactions could be performed, this invention anticipates those analysis will fall into two categories, analysis for the purpose of collecting information across some administrative domain and analysis pursuant to enforcing a policy for some administrative domain. The

administrative domain could be a single machine, a single user who could appear on different machines, a collection of users or machines or any combination thereof.

Policy administration

In the currently available environment, policy and the collection of e-commerce

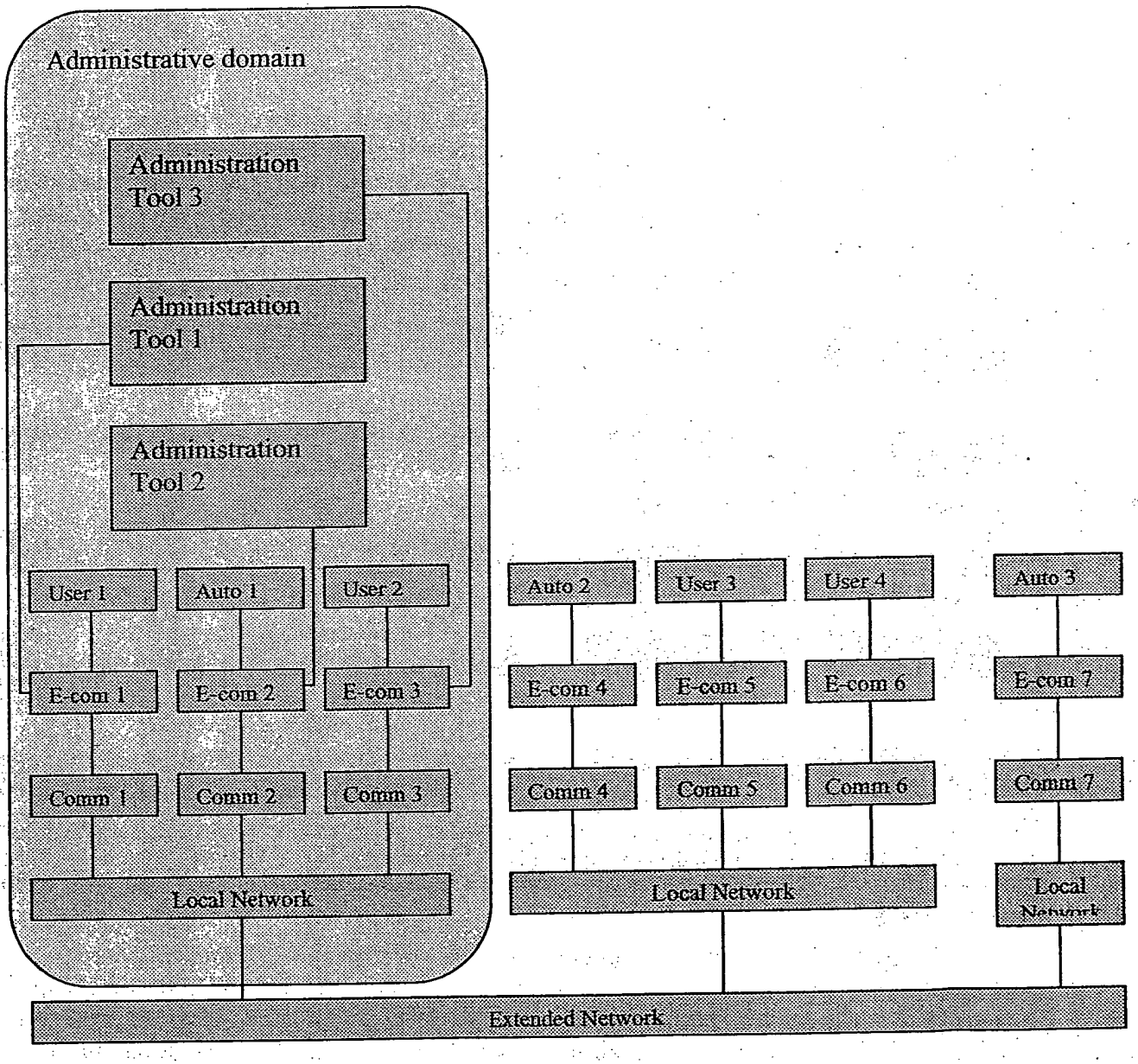

Figure 4. Multiple administration programs are typically needed to set policy for and collect information from e-commerce programs provided by different vendors.

transaction information may be enabled within either the User/automated process components or the e-commerce program. In order to collect equivalent data or enforce uniform policies across an administrative domain, one would need to either find a single

administrative program that can provide the equivalent administrative capabilities for software from three different vendors, or perform administrative functions with three different administration programs for the three different products. The later case is more likely and is illustrated in figure 4.

Consider the case where administrative capabilities do exist in the user/automated process components or the e-commerce programs. In a multi-product environment, those capabilities can only provide consistent coverage across an administrative domain when each product supports similar administrative capabilities. In the general case, in which the administrative domain contains different products (perhaps from different vendors), administrative capabilities will be specific to each product or vendor and will not enable

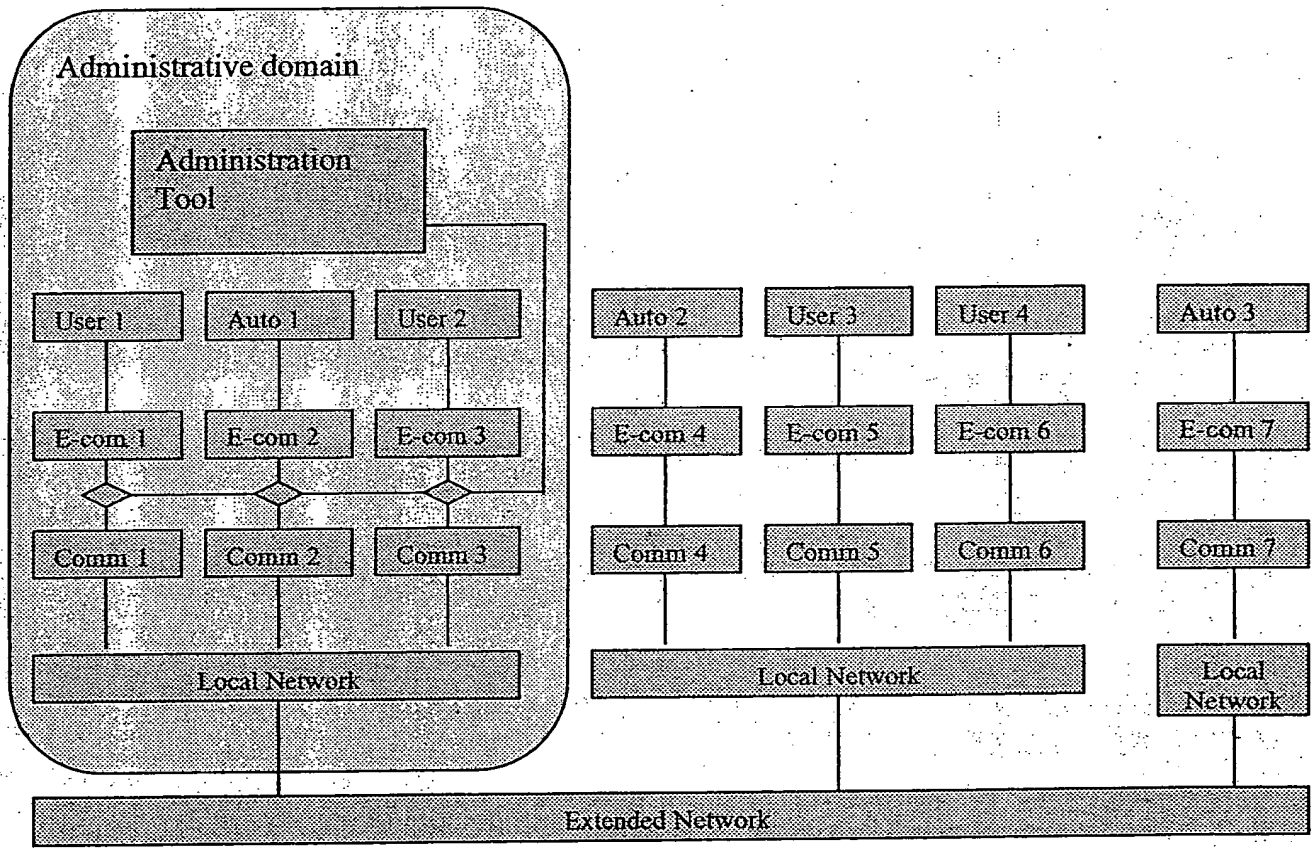

Figure 5. A e-commerce based filter controlled by an administration program is interposed uniformly across an administrative domain at the interface between the e-commerce program and the communications system.

uniform capabilities across the domain. Of course, even if similar administrative capabilities are available from all products, it may not be practical to apply a uniform policy across all of the e-commerce programs. For instance, the desired policy may be to enforce limits for certain operations within the administrative domain (e.g. the total amount of money spent). In the scenario illustrated in figure 4, this would be difficult or impractical since the administrative programs do not share information between them so no single program gets an overall view of the administrative domain.

In this invention we approach providing comprehensive and uniform coverage across an administrative domain by adding a e-commerce based filter (as illustrated in

Figure 3) across a layer of the e-commerce based e-commerce stack. One possible implementation of this concept is illustrated in figure 5.

The known form of the information allows it to be analyzed independent of the particular e-commerce program from which it originated. In cases where e-commerce transaction information is being collected, the information can be accumulated based on the known form of the e-commerce transaction data and therefore traffic originating from different e-commerce programs can be combined. Similarly, enforcement of policies specifiable at the e-commerce transaction level can be evaluated seamlessly across e-

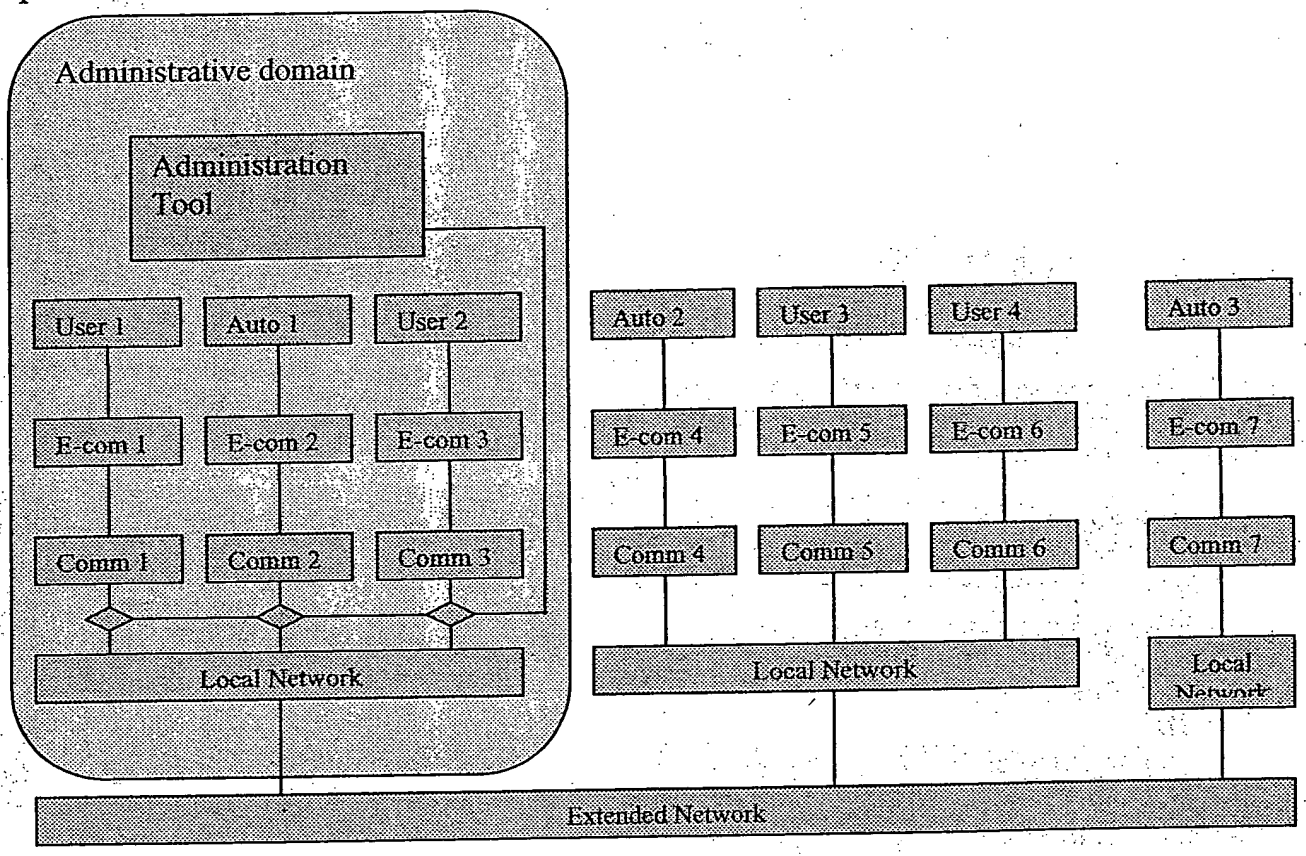

Figure 6. A e-commerce based filter may also be interposed uniformly across an administrative domain between the communications system and the local network.

commerce products, even if they come from different vendors. Figure 5 illustrates but one possible configuration for using e-commerce based filters uniformly across a heterogeneous administrative domain. Figure 6 illustrates another configuration in which e-commerce based based filtering could potentially be accomplished. As anticipated by figure 3, e-commerce based based filtering could also be carried out at the interface with the extended network as is illustrated in Figure 7.

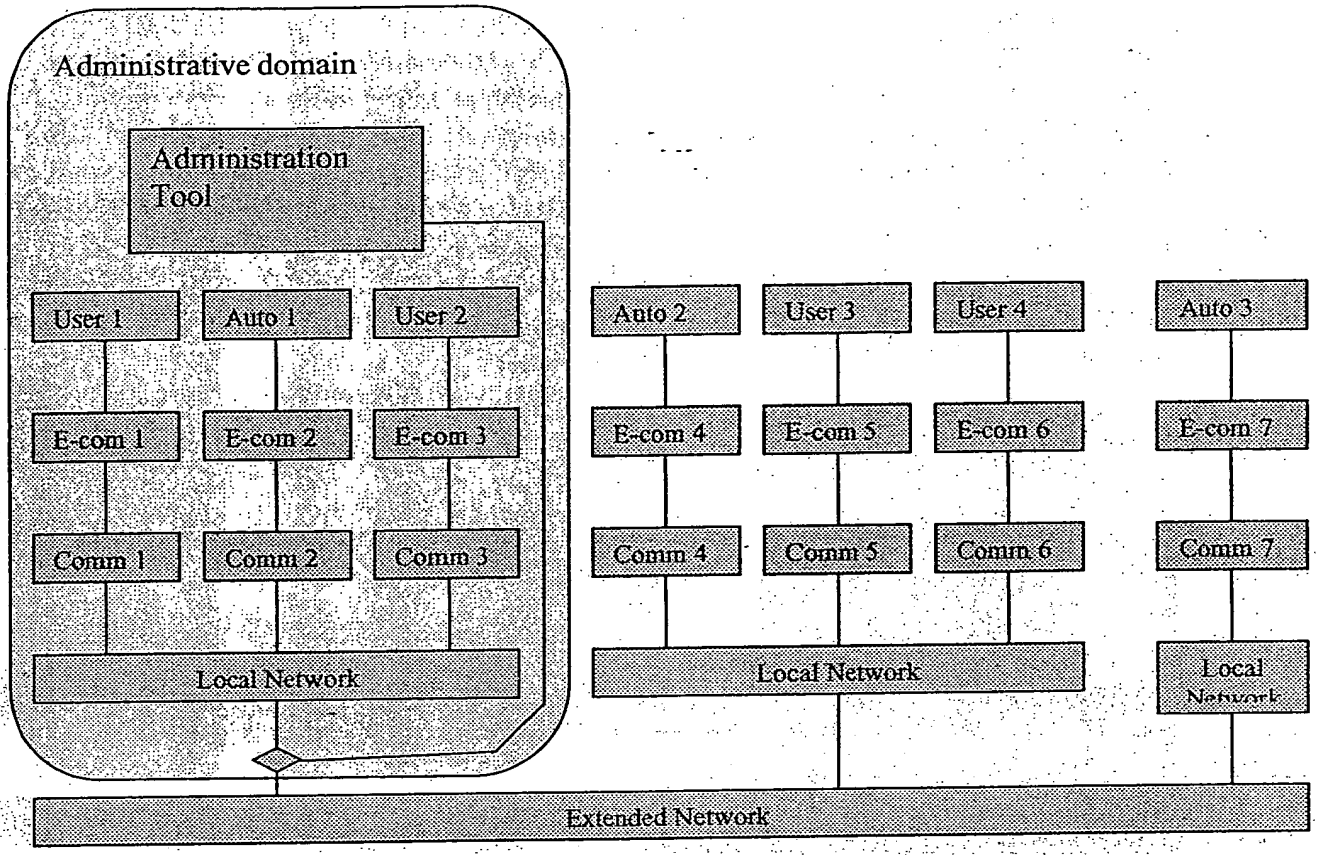

Figure 7. A e-commerce based filter may also be interposed uniformly across an administrative domain between the local network and the extended network.

The impact of cryptographic technologies

Cryptographic technologies are widely employed in e-commerce transactions for identifying the source of messages, verifying their authenticity and hiding their content from unauthorized people or programs. In some system configurations, cryptographic technologies will limit the ability of filters to analyze or modify data in the known form. However, there are many system configurations that provide cryptographic protections without preventing the proper operation of filters. Using the same illustrative architecture as in figures 2 through 7, figure 8 illustrates a popular system configuration in which cryptographic techniques are used to provide a secure private tunnel through an insecure public network. In this case, the filter shown in figure 8 would not be limited by the encryption used to construct the secure private tunnel.

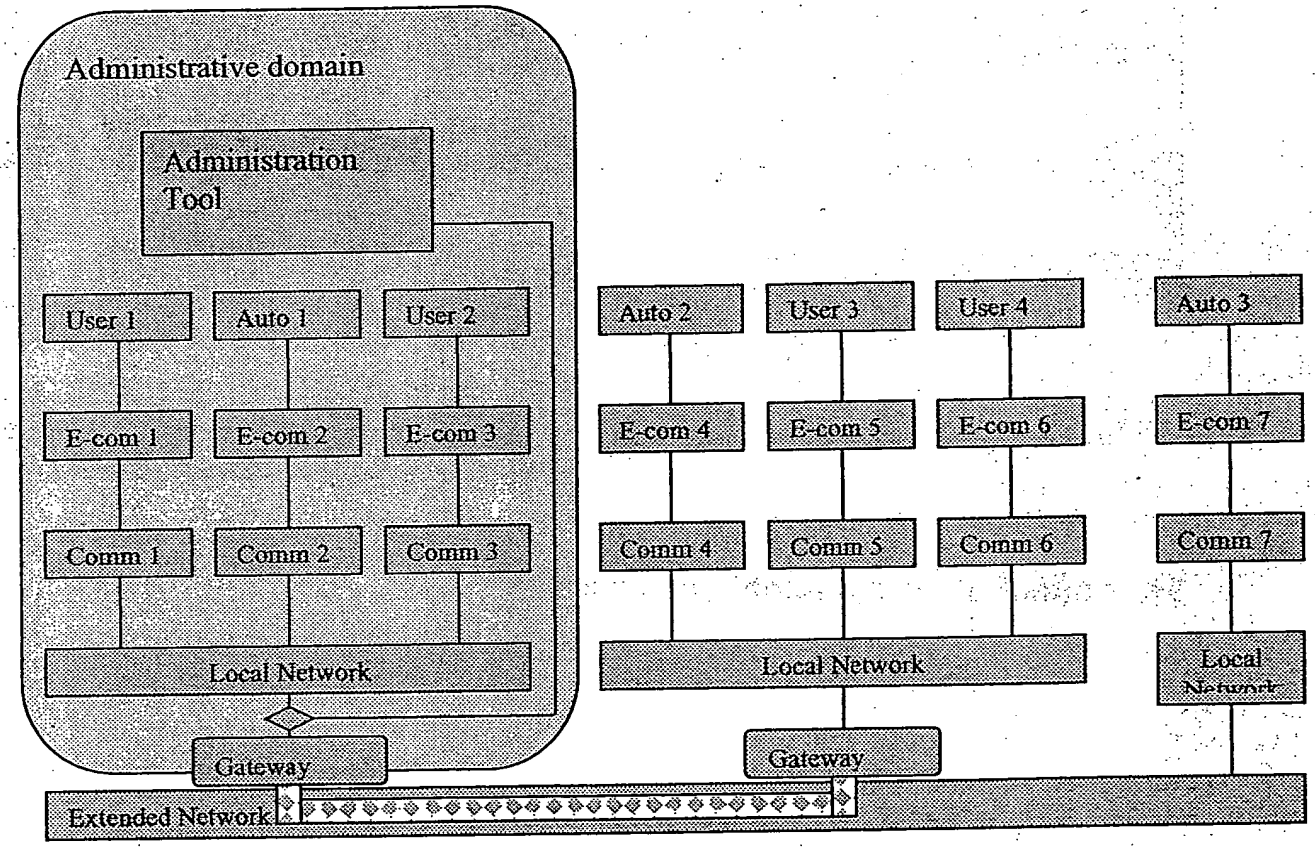

Figure 8 Cryptographic technologies may be used to connect two private local networks via a secure "tunnel" through a public network, illustrated here by a shaded pipe. This does not interfere with an e-commerce based filter interposed between the local network and the extended network (or indeed at any higher layer).

In the systems where data encryption is introduced in the communications component, a filter located at a gateway (as shown in figure 8) may not be able to meaningfully process the known form. In order to meaningfully process encrypted data, the filter would require access to the decryption key, which is contrary to most security policies. This situation is illustrated in figure 9. One way of avoiding the situation illustrated in figure 9 is to position filters at the e-commerce program / communications component boundary as is illustrated in figure 10. The configuration illustrated in figure 10 has the advantage of working seamlessly with many forms of session layer

cryptography, such as Secure Sockets Layer (SSL) services. SSL is a popular method for

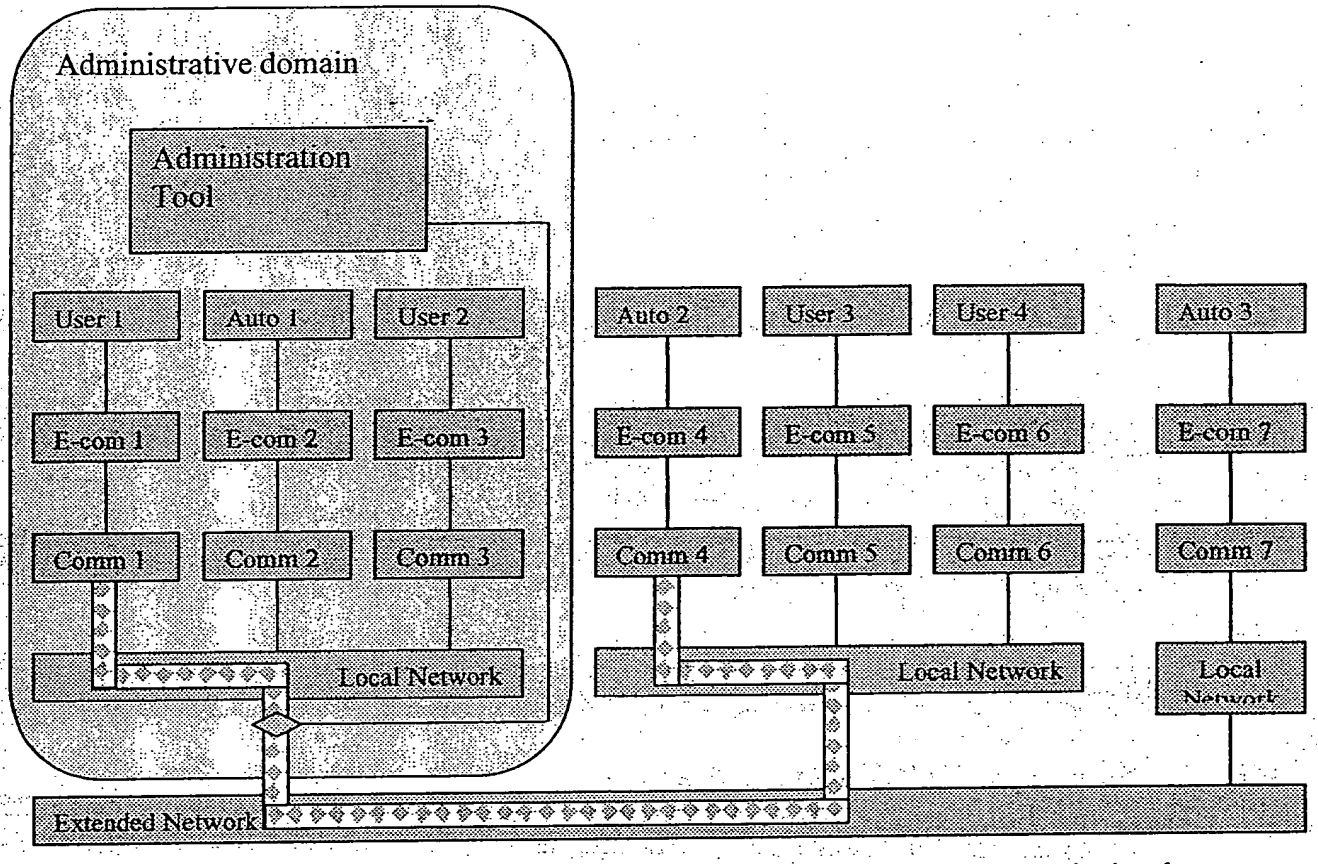

Figure 9 shows the path of encrypted data when the encryption is performed within the communications layer. Note: the filter component illustrated in this figure could be moved higher in the stack (as in figure 10), or the filter could be given access to the decryption key.

including encryption and authentication into e-commerce systems.

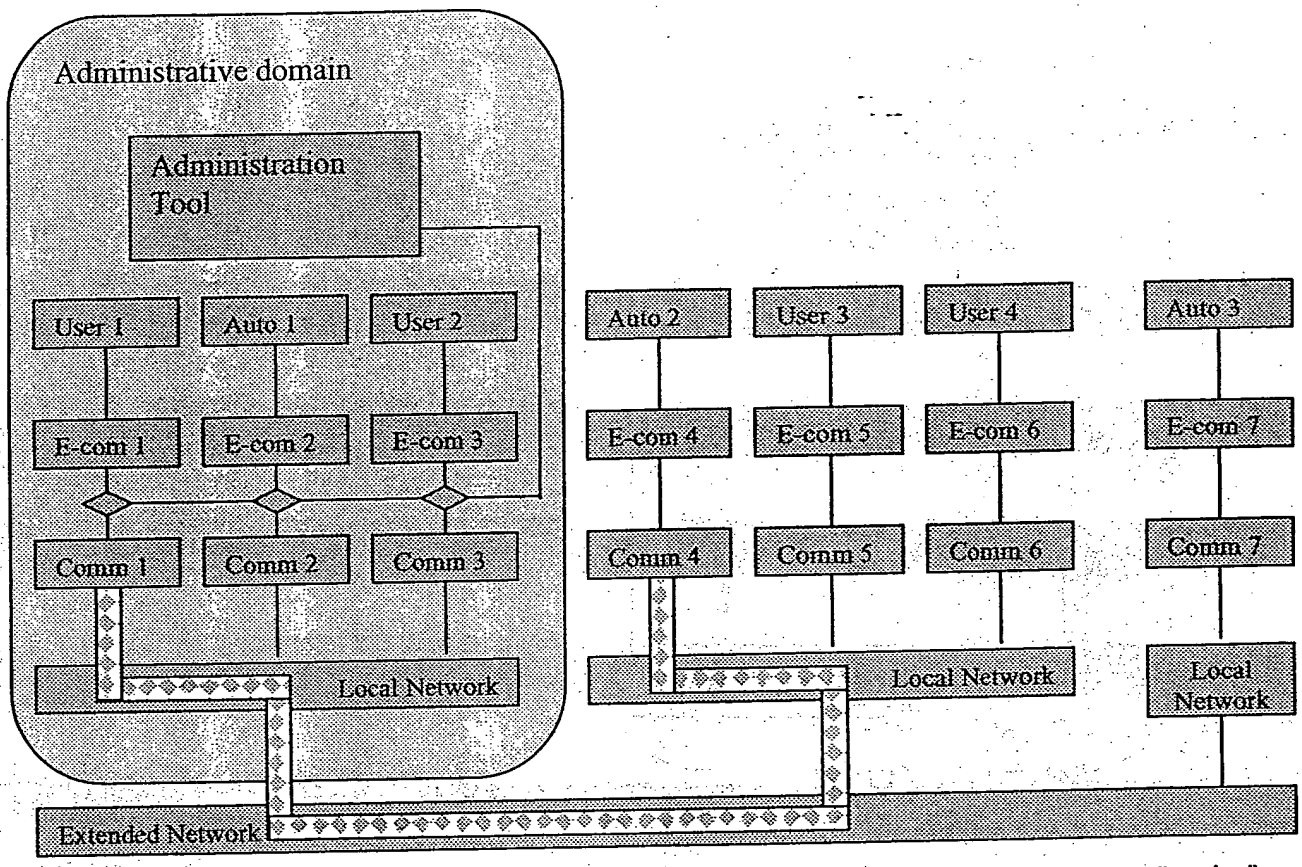

Figure 10. When cryptographic technology is used to connect two communications systems via a secure "session", it does not interfere with a e-commerce based filter interposed between the e-commerce programs and the communications systems.

Filtering in the presence of cryptography

Cryptographic technologies are already widely used with e-commerce transactions, and this trend is expected to continue as the industry grows. Therefore, e-commerce based filters will have to operate in the presence of cryptography.

E-commerce transactions may flow through a wide variety of cryptographic technologies, so e-commerce based filters need a variety of strategies for operating in their presence. Such strategies include but are not limited to the following:

- The e-commerce based filter may be interposed above the components that implement the cryptographic technology. Figure 8 and Figure 10 illustrate this strategy, which is appropriate when the administrator has some flexibility in choosing where to interpose the filter.

- The e-commerce based filter may be given the keys necessary to encrypt and decrypt the messages flowing through it. Figure 9 illustrates this strategy, which is appropriate when the filter has access to the key(s) necessary to decrypt the data.

- A e-commerce based filter may include two cryptographic proxies, paired with the communications programs at each end of a secure "session". Each proxy connects to one of the communications programs and plays the role of the other communications program in the cryptographic protocols they use, thus forming two separate secure "sessions" with the filter logic between them. Figure 11

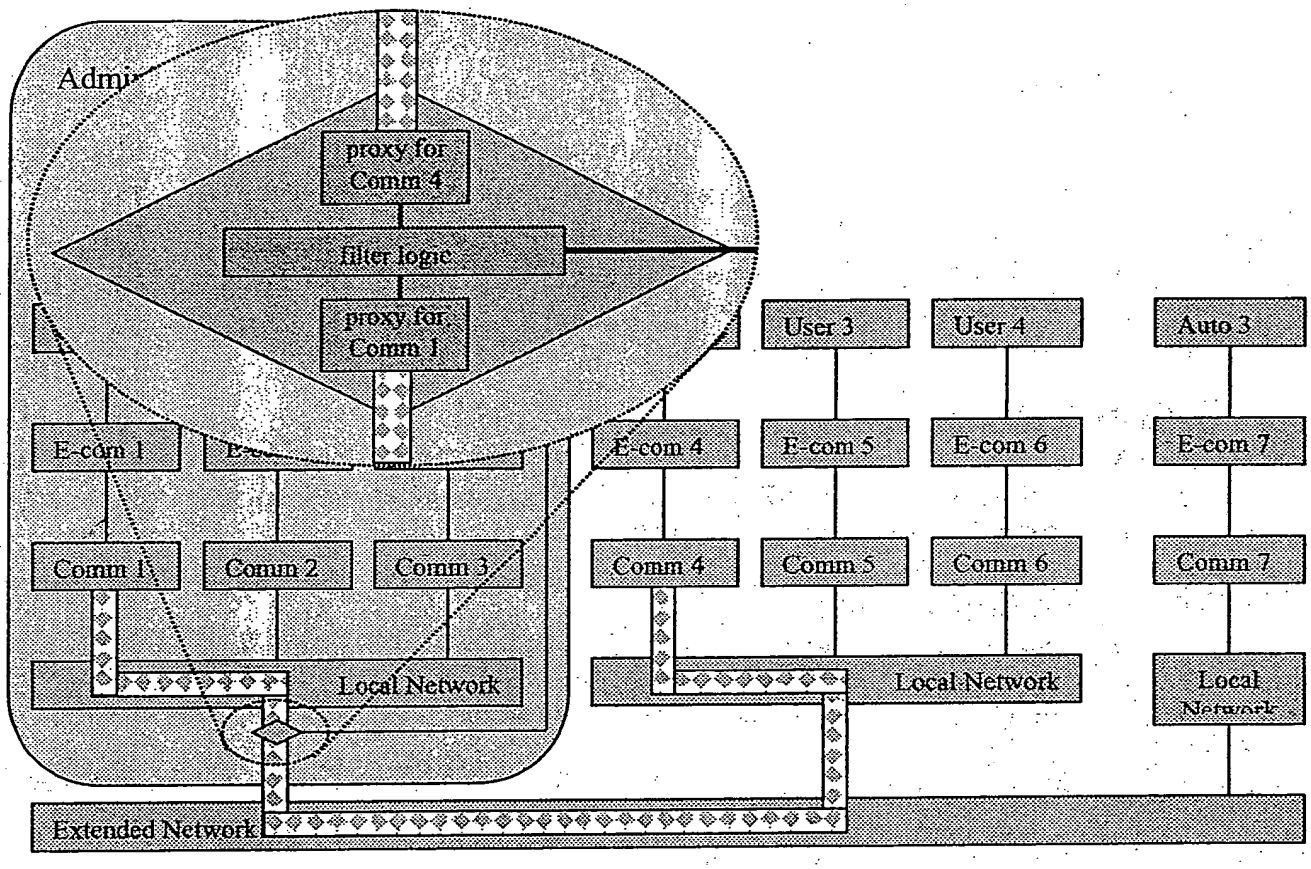

Figure 11. When cryptographic technology is used to connect two communications systems via a secure "session", it does not interfere with a e-commerce based filter that includes cryptographic proxies.

illustrates this strategy, which is appropriate when asymmetric-key (also known as public-key) cryptographic technologies are used.

- A e-commerce based filter may be given a key that can be used to decrypt only part of the message as when the communications are encrypted with multiple keys, where one of the keys is provided to the filter. Figure 9 illustrates this strategy.

Filter capabilities

Filters can be programmed to reconstruct transactions even if the transaction is broken up into multiple pieces. This can be accomplished by providing persistent storage in the filter that associates the appropriate pieces in order to build a complete picture of the transaction. Using such technology, filters can potentially know the transaction parties, timings, and specific details such as quantities and part numbers. It will also be

possible in some cases for the transactions to be modified by the filters so as to create new functionality in the system or enforce specific policies from within the filters.

Business related capabilities

There are four fundamental classes of activity that are enabled by the invention:

1. Rerouting transactions
    a. Automated bundling
    b. Offer transaction to third party
2. Modifying transactions
    a. Blocking transactions
    b. Stalling transactions
    c. Alerting on selected transactions or situations
3. Recording transactions
4. Generating new transactions
    a. Ordering related goods
    b. Ordering related services

Business models

- Immune system model: Collect information from subscribers in a way that appropriately protects the customer's privacy. Centrally analyze the data in order to detect unacceptable transactions and then in response, possibly in real time, distribute identification information to subscribers filters that can block or stall detected transactions.
- Build a security team that is responsible for staying current on the late breaking Internet-based scams. The security team would learn how to identify the scam by analyzing the transactions that are used to carry out the scam. The identification technology could be supplied to subscribers as updates to their filters. When a filter running at a customer sited identified a scam related transaction the security company could provide value added services such as obtaining legally relevant information for future prosecution.
- A third party transaction recording company. The transaction record repository company installs filters across a subscriber's organization in order to collect a record of the transactions undertaken by the organization. These filters encrypt the transaction information and send it to the third party repository. The repository time stamps the transaction history and archives it for a period of time. The repository company would not be able to interpret the encrypted data.
    - The subscriber company could encrypt with a public/private key pair (a,b) and could then throw away the private key(a) (or claim to have thrown it away when in court). Then no-one would be able to decrypt the data in the repository, however, if the subscriber wanted to legally prove that a particular transaction took place at or before the repository time stamp, they could recover the data from their own archive, encrypt the data with the public key (b) and show that it matched the encrypted data in the archive. This solves the often-mentioned problem with having a third party hold your business data. When a government entity attempts to get at archived data held by a third party the typical response of the third party is

to immediately turn over the data, whereas, when companies are asked to turn over their data, they typically find a way to either not comply or partially comply in a way that will protect their information.
    - The subscriber company could encrypt with a symmetric key and hold the key so only the holder of the key would be able to decrypt the data in the archive.
- Sell filter based heuristics for detecting potential e-commerce scams as a subscription service. The power of filter-based heuristics would be greater than heuristics implemented within a single product since they would have information from an entire administrative domain to analyze.
- Sell a subscription service that keep up with changing export laws, tax laws etc. and provides these as intelligence in filters that monitor/enforce compliance.
- A third party vendor provides filters to a customer. After installing the filters, the customer would search for the best deal they could find and then execute a purchase transaction. The filter would intercept the purchase transaction and offer the third party vendor the opportunity to supply the product or service at the discovered price. The third party vendors could then re-direct the order to themselves. There could be a variety of incentives provided to the customer by the third party vendor in order to obtain the business, such as an overall discount provided to the company at the end of the year based on the total amount of business transacted.
- A service that audited the filter policies and certified them as in compliance with some standard, consistent with best practices etc.
- Subscription service that provides additional security checks before a transaction can be completed. For instance, extend the certification/authentication function commonly present in e-commerce applications to include enforcing additional policy relative to signatures; e.g., that a person is authorized to sign in a specific role (purchaser, co-signer) or cross-checking information held at different sites; e.g., multiple banks may have to assure payment when the funds covering a transaction are spread across different accounts.

Some claims that occurred to us; not all the text is covered by these claims

(1) A subsystem interposed between two or more parties that intercepts e-commerce transactions and takes actions based upon the properties of the e-commerce transaction; where the presence of the subsystem does not require any changes to the protocols used by the parties.

(2) A system as in claim (1) where the subsystem interposed between two or more parties includes one or more software components that identifies e-commerce transaction related traffic even when other traffic is passing between the parties.

(3) A system as in claim (1) where the subsystem interposed between two or more parties includes one or more software components that deduces what if any action should be taken in connection with an e-commerce transaction arriving at the subsystem.

    a. A system as in claim (3) where the action is deduced in part or whole by applying predefined rules to the contents of one or more messages that comprise an e-commerce transaction.

b. A system as in claim (3) where the action is deduced in part or whole by applying predefined rules independent of the contents of any messages that comprise an e-commerce transaction.
c. A system as in claim (3) where the action is deduced by applying predefined rules based entirely on the origin or destination of one or more messages that comprise an e-commerce transaction.
d. A system as in claim (3) where the action is deduced by supplying another software subsystem information and receiving a reply.
e. A system as in claim (3) where the action is deduced by interacting with a human

(4) A system as in claim (1) where the subsystem interposed between two or more parties includes one or more software components that modifies e-commerce transactions arriving at the subsystem before it is passed to the intended party.
(5) A system as in claim (1) where the subsystem interposed between two or more parties includes one or more software components that does not pass a received message to the intended party.
(6) A system as in claim (1) where the subsystem interposed between two or more parties includes one or more software components that pass a received message to a different party than the intended party.
(7) A system as in claim (1) where the subsystem interposed between two or more parties includes one or more software components that pass a received and modified message to a different party than the intended party.
(8) A system as in claim (1) where interposed is interpreted to mean that the subsystem is comprised in part or entirely of a software layer inserted between two existing software layers such that the pre-existing software layers continue to operate properly in the event the subsystem takes no action.
(9) A system as in claim (1) where interposed is interpreted to mean that the subsystem is comprised in part or entirely of a software object inserted between two existing software objects such that the pre-existing software objects continue to operate properly in the event the subsystem takes no action.
(10) A system as in claim (1) where interposed is interpreted to mean that the subsystem is comprised in part or entirely of a software component inserted between two existing software components such that the pre-existing software components continue to operate properly in the event the subsystem takes no action.
(11) A system as in claim (1) where parties is interpreted to mean any software that represents a person or institution that has the ability to transfer goods, services or money.
(12) A system as in claim (1) where parties is interpreted to mean any software that represents a person or institution that has the ability to transfer goods, services or money.
(13) A system as in claim (1) where *e-commerce transaction* is interpreted to mean any message traveling between any of the parties related to the transfer of goods, services or money.
(14) A system as in claim (1) where *e-commerce transaction* is interpreted to mean any collection of messages traveling between any of the parties that together enable the transfer of goods, services of money.

John F Morar
10/09/2000 05:02 PM

To: David Shofi Redacted
cc:
From: John F Morar/ Redacted
Subject: IBM Confidential: Disclosure YOR8-2000-0738 "Method and Apparatus for Independent Filtering of E-Commerce Transactions"

David,

Here is the explanatory write-up for YOR8-2000-0738 "Method and Apparatus for Independent Filtering of E-Commerce Transactions". It was created in Word 2000 so I'm also mailing you hard copy since I assume printing might cause you undue grief. I'm putting the hardcopy in internal mail to you tonight. This document has a technical description followed by potential business processes.

V91 Filtering e-commerce transacti

—John

Exhibit D

Thomas J. Watson Research Center
P.O. Box 218
Yorktown Heights, NY 10598

October 31, 2000

VIA OVERNIGHT MAIL

Harry F. Smith, Esq.
Ohlandt, Greeley, Ruggiero & Perle, L.L.P.
One Landmark Square, 9th Floor
Stamford, Connecticut 06901-2682

Subject: Preparation of Patent Application: YOR920000719US1 909040
Yorktown Disclosure Number: YOR8-2000-0738

Title: "METHOD AND APPARATUS FOR INDEPENDENT FILTERING OF E-COMMERCE TRANSACTIONS" Attorney's handwritten notes redacted

Inventor: Morar, John F.
Chess, David M.
Kershenbaum, Aaron
Pring, Edward
Whalley, Ian N.
White, Steve R.

INVENTOR INFORMATION REDACTED

Dear Harry,

Enclosed are materials relative to the preparation and prosecution of the subject patent application including an original disclosure, an embodiment, and a diskette with a soft copy of the embodiment in Microsoft Word format. The patent application is to be filed in the USPTO by January 30, 2001. Redacted Redacted. The work is to be done in accordance with the IBM Outside Counsel Instructions.

The formal papers are to be prepared and filed by your office, listing the names of the Yorktown attorneys on the Declaration and Power of Attorney as follows:

POWER OF ATTORNEY: As a named inventor I hereby appoint the following attorneys and/or agents to prosecute this application and transact all business in the Patent and Trademark Office connected therewith as follows:

Manny W. Schecter (Reg. 31,722), Lauren C. Bruzzone (Reg. 35,082), Christopher A. Hughes (Reg. 26,914), Edward A. Pennington (Reg. 32,588), John E. Hoel (Reg. 26,279), Joseph C. Redmond, Jr. (Reg. 18,753), Douglas W. Cameron (Reg. 31,596), Stephen C. Kaufman (Reg 29,551), Marian Underweiser (Reg. 46,134), Wayne L. Ellenbogen (Reg. 43,602), Robert M. Trepp (Reg 25,933), Louis P. Herzberg (Reg. 41,500), Louis J. Percello (Reg. 33,206), Paul J. Otterstedt (Reg. 37,411), Daniel P. Morris (Reg. 32,053), and David M. Shofi (Reg. 39,835).

Send correspondence to: outside counsel attorney

Exhibit E

Subject: Re: Draft Patent Application
Date: Sun, 21 Jan 2001 16:01:35 -0500
From: "John F Morar" redacted
To: Harry Smith redacted

thanks Harry,

I received the document. We'll get back to you with our comments shortly.

--John

Harry Smith <hsmithogrp@earthlink.net> on 01/20/2001 06:35:15 PM

To: John F Morar/Watson/IBM@IBMUS
cc:
Subject: Draft Patent Application

John-
Attached is the draft of the e-commerce filter application. Please review with your coinventors and get back to me with your comments and corrections. Make sure the independent claims are not drafted too broadly based on the prior art that you may be aware of. I will also need a copy of any relevant prior art. When you return the draft also provide further details on the administrative tool 20 (is this a commercially available product?), as well as names of suitable e-commerce programs that may be found in a typical system. Feel free to contact me should thee be any questions or comments.
Best regards,
Harry

Exhibit F

OHLANDT, GREELEY, RUGGIERO & PERLE, L.L.P.

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J. Robert Dean*
*admitted in States other than CT

Vazken Alexanian, Ph.D. (Agent)
Kristina M. Grasso (Agent)

VIA FEDERAL EXPRESS
January 31, 2001

Mr. John F. Morar
IBM Corporation
Thomas J. Watson Research Center
Office 2S-A12
30 Saw Mill River Road
Hawthorne, NY 10532

Re: Your Ref. No. YOR920000719US1
My Ref. No. 909.0040 USU
"SYSTEM AND APPARATUS FOR INDEPENDENT FILTERING OF E-COMMERCE TRANSACTIONS"

Dear John:

Enclosed is a second draft of the patent application for this invention disclosure. Please review the draft with your co-inventors and get back to me with any further comments. I have highlighted some of the larger insertions. Please feel free to give me a cal should you wish to discuss the description or the claims. I will also need the residence address and citizenship for each inventor.

Sincerely,

OHLANDT, GREELEY, RUGGIERO & PERLE, L.L.P.

Harry F. Smith

encl.

cc: Gail Zarick, Esq. (w/encl)

Exhibit G

OHLANDT, GREELEY, RUGGIERO & PERLE, L.L.P.

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VIA FEDERAL EXPRESS
February 5, 2001

Mr. John F. Morar
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Re: Your Ref. No. YOR920000719US1
My Ref. No. 909.0040 USU
"SYSTEM AND APPARATUS FOR INDEPENDENT FILTERING OF E-COMMERCE TRANSACTIONS"

Dear John:

Enclosed is a finalized patent application that is ready for your review. The application incorporates the revisions to the second draft application. Please carefully review this application with your co-inventors to insure that it accurately describes your invention, and to verify that the claims are not drafted so broadly as to read on any conventional systems of which you may be aware. If you are satisfied with the application, then also review and execute the enclosed Declaration and the Assignment of all rights to IBM. The Taiwan Oath and Assignment should also be reviewed and executed. Return the executed papers to me for filing in the U.S. Patent Office. If any changes are made to the application, each inventor must initial and date each change in the margin. Let me know if a major change is required, and I will send you replacement pages(s). If an inventor makes a change to the formal papers, such as correcting an address, then only that inventor need initial and date the change.

We have a continuing duty of disclosure to bring to the Examiner's attention any prior art that may be deemed material or pertinent to the claimed invention. Send me a copy of any prior art of which you may be aware of now, or of which you may become aware after the application is filed. Feel free to contact me with any questions.

Sincerely,

OHLANDT, GREELEY, RUGGIERO & PERLE, L.L.P.

Harry F. Smith
encl.
cc: Gail Zarick, Esq.

Exhibit H

UNITED STATES PATENT AND TRADEMARK OFFICE

COMMISSIONER FOR PATENTS
UNITED STATES PATENT AND TRADEMARK OFFICE
WASHINGTON, D.C. 20231
www.uspto.gov

Bib Data Sheet

SERIAL NUMBER	FILING DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
60/235,973	09/28/2000 RULE _	–	–	TTZ-001.60

APPLICANTS
John MacLean, Boston, MA ;

** CONTINUING DATA **********

** FOREIGN APPLICATIONS **********

IF REQUIRED, FOREIGN FILING LICENSE GRANTED ** 12/02/2000

Foreign Priority claimed	STATE OR COUNTRY	SHEETS DRAWING	TOTAL CLAIMS	INDEPENDENT CLAIMS
☐ yes ☐ no 35 USC 119 (a-d) conditions met ☐ yes ☐ no ☐ Met after Allowance Verified and Acknowledged _____ Examiner's Signature Initials	MA	–	–	–

ADDRESS

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Patent Group
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TITLE

Transaction management system

FILING FEE RECEIVED	FEES: Authority has been given in Paper	
150	No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:	☐ All Fees ☐ 1.16 Fees (Filing) ☐ 1.17 Fees (Processing Ext. of time) ☐ 1.18 Fees (Issue) ☐ Other _____ ☐ Credit

Exhibit I

PATENT APPLICATION SERIAL NO. _____

U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICE
FEE RECORD SHEET

10/03/2000 MFANAEIA 00000048 60235973

01 FC:114 150.00 OP

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(5/87)

*U.S. GPO: 1999-459-082/19144

09-29-00 A/PROV

JC815 U.S. PTO 09/28/00

JC892 U.S. PTO 60/235973 09/28/00

PTO/SB/16 (11-95)
Approved for use through 01/31/98. OMB 0651-0037
Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

PROVISIONAL APPLICATION FOR PATENT COVER SHEET

This is a request for filing a PROVISIONAL APPLICATION FOR PATENT under 37 CFR 1.53(b)(2).

	Docket Number	TTZ-001.60	Type a plus sign (+) inside this box →	+

INVENTOR(S)/APPLICANT(S)

LAST NAME	FIRST NAME	MIDDLE INITIAL	RESIDENCE (CITY AND EITHER STATE OR FOREIGN COUNTRY
MacLean	John		Boston, MA 02109

TITLE OF THE INVENTION (280 characters max)

TRANSACTION MANAGEMENT SYSTEM

CORRESPONDENCE ADDRESS

Patent Group
Foley, Hoag & Eliot LLP
One Post Office Square

STATE	MA	ZIP CODE	02109-2170	COUNTRY	United States

ENCLOSED APPLICATION PARTS *(check all that apply)*

X	Specification	*Number of Pages*	9		Executed Small Entity Statement
	Drawing(s)	*Number of Sheets*		X	Other *(specify)* = Certificate of Express Mail EL699587121US

METHOD OF PAYMENT OF FILING FEES FOR THIS PROVISIONAL APPLICATION FOR PATENT *(check one)*

X	A check or money order is enclosed to cover the filing fees	FILING FEE AMOUNT ($)	150.00
	The Commissioner is hereby authorized to		

The invention was made by an agency of the United States Government or under a contract with an agency of the United States Government.

X No.

☐ Yes, the name of the U.S. Government agency and the Government contract number are: _____

Respectfully submitted,

SIGNATURE _____ Date 09/28/00

TYPED or PRINTED NAME Robert A. Mazzarese REGISTRATION NO. *(if appropriate)* 42,852

☐ Additional inventors are being named on separately numbered sheets attached hereto.

USE ONLY FOR FILING A PROVISIONAL APPLICATION FOR PATENT

405404

Certificate of Express Mail

I do hereby certify that the foregoing documents are being deposited with the United States Postal Service as Express Mail, postage prepaid, "Post Office to Addressee", in an envelope addressed to Box Provisional Patent Application, Assistant Commissioner for Patents, Washington, D.C. 20231 on this date of September 28, 2000.

Robert King
Express Mail Label: EL699587121US
Date of Deposit: September 28, 2000

New Provisional Patent Application
Attorney Docket No.: TTZ-001.60

Title: **TRANSACTION MANAGEMENT SYSTEM**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

PROVISIONAL PATENT APPLICATION

for a

TRANSACTION MANAGEMENT SYSTEM

Inventors: John MacLean

Attorney Docket: TTZ-001.60

TRANSACTION MANAGEMENT SYSTEM

Field of the Invention

The present invention relates to transaction management systems. More particularly, the invention relates to methods and systems for capturing and managing transactions, and electronic documents related thereto, conducted in a computer environment.

Background of the Invention

The emergence of networked computing, and in particular, increasingly accessible networks such as the Internet and the World Wide Web, has made possible a wide variety of computerized transactions and electronic commerce. This may include one-time consumer transactions such as a purchase of a product online, as well as business-to-business transactions, and complex consumer transactions such as mortgage lending, insurance, licensing, and so forth. When conducted using computers, transactions may involve data collection, presentation of multimedia such as text, graphics, and sound, dynamic data generation, exchange of other data types such as facsimiles, and so forth.

As a significant disadvantage, transactions involving significant exchanges of information in various formats may not be well documented, so that a party to a transaction may be unable to demonstrate a term or terms of the transaction that the party believed to be material.

There remains a need for a system that captures documents and electronic data associated with a transaction.

Summary of the Invention

The systems and methods described herein relate to a system for documenting electronic transactions. The system may store any documents or data associated with a transaction, including dynamic content and user selections and inputs. A document repository may be provided for storing unstructured data representing data, text, forms, and so forth presented to a party during a transaction. A viewer may be provided for displaying data stored in the document repository.

Detailed Description of Certain Embodiments

The description below pertains to several illustrative embodiments of the invention. Although many variations of the invention may be envisioned by one skilled in the art, such variations and improvements are intended to fall within the compass of this disclosure. Thus, the scope of the invention is not to be limited in any way by the disclosure below.

A transaction management system may include a server, such as a Web server, that presents pages to client devices over a network. A user at a client device may enter data, navigate to different pages, and so forth. The server may include a software layer that can capture documents presented to the client device, and that can capture user input from the client device.

The software layer may reside, for example, between a presentation layer and any application logic layers within the server, so that any content presented to the client device may be captured. This may include static content or dynamic content, and may

include, for example, HTML, XML, media such as audio, video, animation, and graphics, as well as database query results however formatted, and so forth. Even where external content is included in a page, such as targeted advertisements, the actual advertisements presented within a page may be captured and stored within a transaction history. The software layer may also reside outside the server, either between the presentation layer and the network, or between a firewall and the network. It will be appreciated that, where secure communications are employed, the software layer may further include encryption and decryption processes as appropriate to maintain secure connections between components of the system.

The software layer may additionally capture user input from the client device. For example, activation of controls such as checkboxes, radio buttons, scroll boxes, drop-down lists and the like may be captured. Entries into text boxes and navigation through hyperlinks may be captured, as well as any files uploaded or downloaded by the client device.

The software layer may include one or more triggers to control activation and de-activation of transaction capture. For example, the software layer may be activated when a user navigates to a specific page, or activates a button within a page, or performs some other action. By controlling operation of the software layer with triggers, captured data and documents relating to a transaction may be stored without continuous logging of all server activity.

The software layer may capture data and store the data in a document repository.

The document repository may provide a hierarchical system of folders for client devices, users, and/or specific transactions. Within each folder may be stored any data relating to a transaction, or more generally, any data provided by the software layer. The data may include application data, such as documents for applications such as word processing programs, spreadsheet programs, database programs, computer automated design programs, and so forth. The data may also include page data such as HTML, XML, forms, scripts, and the like. Other types of data may also be supported, including media such as audio files and messages, video files, e-mails, text, print streams, screen captures, EDI, portable document format, ASCII, and facsimile data. Optical character recognition or other techniques may be included for textual interpretation of non-text-based formats. The software layer may further capture any authentication data including passwords, digital signatures, credit card numbers, keys for secure communication, and so forth. It will be appreciated that, under certain privacy constraints, some data that may be available for capture will explicitly not be captured by the system.

The document repository may reside on a remote network device, accessible to the software layer and document viewers through an interface such as a Web server. The document viewer may use, for example, one or more API's to interpret various types of media for display or searching. Each document, item of data, or other media captured during a transaction may be time stamped so that the document viewer may be used to view a complete transaction including the order in which all items were viewed and user inputs provided. Each document may be interpreted and searched in its native format so that, for example, facsimiles may be searched and viewed by individual page, print streams may be searched for graphical or alphanumeric content, and so forth. The

document viewer may provide additional functionality, such as editing documents in native formats, zooming and panning within documents, and annotating documents within the viewer without storing annotations in the document itself.

In one aspect, the transaction management system may be used in a method of doing business to confirm transactions and resolve disputes relating to a transaction. In one such application, a user may provide the software layer on a local client device or within a local area network, gateway, or other network component used by the client device to connect to a network such as the Internet. In another such application, the user may navigate to a remote site that may provide the software layer for capturing transaction data while connecting to a site on which a transaction is to be conducted. In another such application a server hosting the transaction, such as a retailer or service provider, may include the software layer.

In one method of doing business, an independent third party may provide a server for capturing transactions. The server may be accessed by any buyer or seller, for a fee, in order to capture a transaction. The server may, upon request, establish a connection with the seller and a connection with the buyer, and transfer network traffic between the two parties while capturing data in an internal software layer such as that described above. Should there be any dispute after the transaction is concluded, reference may be made to the captured documents, which will provide all details exchanged, and the order in which they were exchanged, prior to completion of the transaction. This may include information of relevance to buyers and sellers alike, including legally binding terms of an agreement, price, description of services and so forth. Data may also include volatile data

such as stock prices, interest rates, and auction bids, that may be relevant to a particular transaction.

It will be appreciated that transaction capture systems such as those described above will have broad application in networked environments. The system may provide insurance in simple retail transactions, such as on-line purchases using a credit card. The system may also provide a platform for complex transactions such as home mortgages, home purchases, loans, insurance policy issuance and underwriting, and so on. However, it should further be appreciated that the system may be used in non-networked environments. For example, a group of papers relating to a transaction may be scanned, faxed, or otherwise converted to an electronic form and stored in the document repository for subsequent retrieval and examination. In addition, a combination of paper documents and on-line documents may be stored in the document repository, so that a transaction that includes paper-based and electronic components may be captured by the system.

In another aspect, captured transactions may be reviewed using data mining techniques to investigate, for example, terms which caused potential buyers not to make a purchase, how long various pages of a multi-page transaction were viewed, exit points at which potential customers left a site, and so on. In such applications, the full content displayed to a client device may be retrieved and reviewed for investigation. Enhanced accuracy of data may be realized because users of the system will be motivated to provide accurate information during the course of a transaction. Further, paper-based and electronic documents may be collectively mined for information. In addition, structured search techniques may be applied to data of varying form, including, for example,

individual pages of faxes, e-mails, form data, and so forth.

While the invention has been disclosed in connection with the preferred embodiments shown and described in detail, various modifications and improvements thereon will become readily apparent to those skilled in the art. Accordingly, the spirit and scope of the present invention is to be limited only by the following claims.

What is claimed is

Claims

1. A transaction management system including a server, a software layer within the server, and a data repository, the software layer configured to capture data provided by the server and data provided to the server by a remote client and to store the captured data in the data repository, the data repository storing the captured data for subsequent retrieval and review.

Abstract

The systems and methods described herein relate to a system for documenting electronic transactions. The system may store any documents or data associated with a transaction, including dynamic content and user selections and inputs. A document repository may be provided for storing unstructured data representing data, text, forms, and so forth presented to a party during a transaction. A viewer may be provided for displaying data stored in the document repository.